

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

CLAIMS

1. (Original) A method for designing a dental prosthesis, the method comprising:

identifying a plurality of components of said dental prosthesis to be designed, each one of said plurality of components having a distinct function;

designing each of said plurality of components separately using virtual tools to produce virtual designs and generating separate data sets, while maintaining a relative reference among said components in a common reference frame; and

producing a dental prosthesis model data set representing said dental prosthesis using all of said separate data sets.

2. (Original) A method as claimed in claim 1, wherein said designing each of said plurality of components separately comprises selecting and using a different designing tool for each one of said plurality of components such that different editing functions in each of said different designing tools are used when designing said components.

3. (Currently amended) A method as claimed in claims 1-~~or~~2, wherein said producing a dental prosthesis model data set comprises integrating said

separate data sets into a single three dimensional virtual model.

4. (Original) A method as claimed in claim 3, wherein said producing a dental prosthesis model data set comprises editing said single three dimensional virtual model once all of said components have been integrated together.
5. (Original) A method as claimed in claim 4, wherein said editing said single three dimensional model data set comprises editing one of said plurality of components without affecting a remainder of said plurality of components.
6. (Currently amended) A method as claimed in claims ~~1 or 2~~, wherein said producing a dental prosthesis model data set comprises collecting together each of said separate data sets for transmission to a manufacturing tool.
7. (Currently amended) A method as claimed in ~~any one of claims 2 to 6~~, wherein said editing functions of one of said different designing tools is a selection of an element from a predefined set of elements.
8. (Currently amended) A method as claimed in ~~any one of claims 2 to 7~~, wherein said editing functions of one of said different designing tools is an adjustment of width, length, and height parameters.
9. (Currently amended) A method as claimed in ~~any one of claims 2 to 8~~, wherein said editing functions of one of said different designing tools is scaling.
10. (Currently amended) A method as claimed in ~~any one of claims 2 to 9~~, wherein said editing functions of one of said different designing tools is a

surface adjustment.

11. (Original) A method as claimed in claim 10, wherein said surface adjustment comprises using virtual handles placed on a surface at specific locations and used to deform said surface at said specific locations.

12. (Currently amended) A method as claimed in ~~any one of claims 1 to 11~~, wherein said designing at least one of said plurality of components comprises using information from a data set generated by at least another one of said plurality of components.

13. (Currently amended) A method as claimed in ~~any one of claims 1 to 11~~, wherein said designing comprises designing at least one of said plurality of components without regards to another one of said plurality of components having at least a portion of a common surface with said one of said plurality of components, and wherein said one of said plurality of components is designed to overlap said another one of said plurality of components along said at least a portion of a common surface.

14. (Currently amended) A method as claimed in ~~any one of claims 1 to 13~~, wherein said designing comprises breaking down at least one of said plurality of components into multiple elements.

15. (Original) A method as claimed in claim 14, wherein said designing comprises using multiple designing tools for a single one of said plurality of components.

16. (Original) A method for producing a dental prosthesis, the method

comprising:

acquiring three dimensional digital data relating to a patient's dentition;

identifying each separate component of said dental prosthesis to be designed having a distinct function;

designing each of said components separately using said three dimensional data and using virtual tools to produce virtual designs of each of said components and generating separate data sets, while maintaining a relative reference among said components in a common reference frame;

producing a dental prosthesis model data set representing said dental prosthesis using all of said separate data sets; and

producing said dental prosthesis using said dental prosthesis model data set.

17. (Original) A method as claimed in claim 16, wherein said designing each of said components separately comprises selecting and using a different designing tool for each of said separate component such that different editing functions in each of said different designing tools are used when designing said components.

18. (Currently amended) A method as claimed in claims 16-~~or 17~~, wherein said producing a dental prosthesis model data set further comprises integrating said separate data sets into a single three dimensional virtual model.

19. (Original) A method as claimed in claim 18, wherein said producing a dental prosthesis model data set comprises editing said single three dimensional virtual model once all of said components have been

integrated together.

20. (Original) A method as claimed in claim 19, wherein said editing said single three dimensional model data set comprises editing one of said plurality of components without affecting a remainder of said plurality of components.

21. (Currently amended) A method as claimed in claims 16-~~or~~17, wherein said producing a dental prosthesis model data set comprises collecting together each of said separate data sets for transmission to a manufacturing tool.

22. (Currently amended) A method as claimed in claims 16-~~or~~17, wherein said producing a dental prosthesis further comprises producing said prosthesis in one piece.

23. (Original) A method as claimed in claim 22, wherein said producing a dental prosthesis model data set further comprises sending each of said separate data sets to a manufacturing tool.

24. (Currently amended) A method as claimed in ~~any one of claims 16 to 23~~, wherein said editing functions of one of said different designing tools is a selection of an element from a predefined set of elements.

25. (Currently amended) A method as claimed in ~~any one of claims 16 to 24~~, wherein said editing functions of one of said different designing tools is an adjustment of width, length, and height parameters.

- | 26. (Currently amended) A method as claimed in ~~any one of claims 16 to 25~~, wherein said editing functions of one of said different designing tools is scaling.
- | 27. (Currently amended) A method as claimed in ~~any one of claims 16 to 26~~, wherein said editing functions of one of said different designing tools is a surface adjustment.
- 28. (Original) A method as claimed in claim 27, wherein said surface adjustment comprises using virtual handles placed on a surface at specific locations and used to deform said surface at said specific locations.
- | 29. (Currently amended) A method as claimed in ~~any one of claims 16 to 28~~, wherein said designing at least one of said plurality of components comprises using information from a data set generated by at least another one of said plurality of components.
- | 30. (Currently amended) A method as claimed in ~~any one of claims 16 to 28~~, wherein said designing comprises designing at least one of said plurality of components without regards to another one of said plurality of components having at least a portion of a common surface with said one of said plurality of components, and wherein said one of said plurality of components is designed to overlap said another one of said plurality of components along said at least a portion of a common surface.
- | 31. (Currently amended) A method as claimed in ~~any one of claims 16 to 30~~, wherein said designing comprises breaking down at least one of said plurality of components into multiple elements.

32. (Original) A method as claimed in claim 31, wherein said designing comprises using multiple designing tools for a single one of said plurality of components.

33. (Currently amended) A computer readable memory for storing programmable instructions for use in the execution in a computer of the method of ~~any one of claims 1 to 32.~~

34. (Original) A computer data signal embodied in a carrier wave comprising data resulting from a method for designing a dental prosthesis, the method comprising:

identifying a plurality of components of said dental prosthesis to be designed having a distinct function;

designing each of said plurality of components separately using virtual tools to produce virtual designs of each of said plurality of components and generating separate data sets, while maintaining a relative reference among said components in a common reference frame; and

producing a dental prosthesis model data set representing said dental prosthesis using all of said separate data sets.

35. (Original) A system for designing a dental prosthesis, the system comprising:

a data store module for storing separately a plurality of components of said dental prosthesis to be designed, wherein a relative reference is maintained among said plurality of components in a common reference frame;

a designing module for designing each of said plurality of components

separately using virtual tools to produce virtual designs of said plurality of components and generating separate data sets; and

an output module for associating each of said separate data sets together and outputting said separate data sets together to a manufacturing device.

36. (Original) A system as claimed in claim 35, wherein said designing module comprises a plurality of designing tools such that at least one of said plurality of components is modeled with a different designing tool than a remainder of said plurality of components.

37. (Original) A system as claimed in claim 35, wherein said output module comprises a tool for combining said separate data sets mathematically and producing a single three-dimensional virtual prosthesis model.

38. (Original) A system as claimed in claim 35, wherein at least one of said different designing tools comprises a selector for selecting an element from a predefined set of elements.

39. (Original) A system as claimed in claim 36, wherein at least one of said different designing tools comprises a cursor to adjust width, length, and height parameters.

40. (Original) A system as claimed in claim 36, wherein at least one of said different designing tools comprises a scaling tool.

41. (Original) A system as claimed in claim 36, wherein at least one of said different designing tools comprises a surface adjustment marker, wherein

- 11 -

said marker is placed on a surface at a specific location and used to deform said surface at said specific location.